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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/912,435	07/24/2001	Andrea Cigada	854063.654	4844

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EXAMINER

VAN, QUANG T

ART UNIT PAPER NUMBER

3742

DATE MAILED: 05/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/912,435	<b>Applicant(s)</b> CIGADA ET AL.	
	<b>Examiner</b> Quang T Van	<b>Art Unit</b> 3742	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The term "encapsulating an integrated circuit die into an integrated circuit package" recited in line 3 of claim 1, contain new matter which was not described in the specification at the time the application was filed. Cancel or Clarification of the claims are requested.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 7, 9, 11, 13-14, 16-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Dlugokecki (US 5,700,697). Linn discloses a plasma cleaning method comprising the

step of introducing said integrated circuit package (11) inside a plasma chamber (21); and exposing said integrated circuit package (11) to a noble gas ion plasma (col. 6, lines 26-31) for selected time and strength to remove an upper layer of material from the package (col. 5, lines 22-34); and placing a pattern of ink marking on said package for marking said package (col. 1, lines 57-63). However, Linn does not disclose the step of encapsulating an integrated circuit die into an integrated circuit package. Dlugokecki discloses the step of encapsulating an integrated circuit die into an integrated circuit package (col. 2, lines 25-30). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Linn the step of encapsulating an integrated circuit die into an integrated circuit package as taught by Dlugokecki in order to reconstruct with the desired integrated circuit. With regard to claim 20, "said noble gas is helium". It would have been obvious to one having ordinary skill in the art at the time the invention was made to use plasma gas is helium. Since helium gas is noble gas, doing so would improve the quality of the plasma gas.

5. Claims 3-4, 6, 8, 12-13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Dlugokecki (US 5,700,697) and further in view of Arita et al (US 6,418,941). Linn/Dlugokecki disclose substantially all features of the claimed invention except said noble gas ion plasma is obtained in the presence of a pure noble gas. Arita discloses a noble gas ion plasma is obtained in the presence of a pure noble gas (col. 2, lines 4-5). It would have been obvious to one having ordinary skill in the art at the time the invention was made

to utilize in Linn/Dlugokecki a noble gas ion plasma is obtained in the presence of a pure noble gas in order to improve the quality of plasma cleaning gas.

6. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Dlugokecki (US 5,700,697) and further in view of Chang et al (US 5,043,299). Linn/Dlugokecki disclose substantially all features of the claimed invention except the step of energizing said plasma by applying the following energization parameters: energization time between 12 and 15 seconds; energization power between 140 and 160W; and plasma chamber pressure between 190 and 210 millitorr. Chang discloses the step of energizing said plasma by applying the following energization parameters: energization time between 12 and 15 seconds (col. 4, lines 26-31); energization power between 140 and 160W (col. 3, lines 49-54); and plasma chamber pressure between 190 and 210 millitorr (col. 3, lines 36-43). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Linn/Dlugokecki the step of energizing said plasma by applying the following energization parameters: energization time between 12 and 15 seconds; energization power between 140 and 160W; and plasma chamber pressure between 190 and 210 millitorr as taught by Chang in order to improve the cleaning quality of the integrated circuit package.

7. Claims 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linn et al (US 5,882,423) cited by applicant, in view of Dlugokecki (US 5,700,697) and further in view of Mitra et al (US 6,232,153). Linn/Dlugokecki disclose substantially all features of the claimed invention except said ink marking process being carried out

using a laser ink marking technique. Mitra discloses an ink marking process being carried out using a laser ink marking technique (abstract, lines 5-9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Linn/Dlugokecki an ink marking process being carried out using a laser ink marking technique as taught by Mitra in order minimize degradation of electrical performance and improving yields and reliability.

***Response to Amendment***

8. Applicant's arguments with respect to claims 1-19 and a new claim 20 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue the distinct disadvantages of the '423 patent are the time and the residual chemical affects of using a fluorinated plasma. A fluorinated plasma takes substantial time, as can be seen and also involves substantial preparation and cleaning steps, none of which are necessary when a noble gas is used. The Examiner disagrees. Linn '423 discloses substantially all features of the claimed invention as described above including the noble gas ion plasma (col. 6, lines 26-31). Therefore, Linn'423 reference is a good reference for 103 (a) rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T Van whose telephone number is 703-306-9162. The examiner can normally be reached on 8:00Am 7:00Pm M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QV  
May 19, 2004



Quang T Van  
Primary Examiner  
Art Unit 3742